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10/036,126	12/26/2001	Mark Lelental	83727D-W	3342

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Paul A. Leipold  
Patent Legal Staff  
Eastman Kodak Company  
343 State Street  
Rochester, NY 14650-2201

EXAMINER
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VIJAYAKUMAR, KALLAMBELLA M

ART UNIT	PAPER NUMBER
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1751

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**MAILED**  
JUN 16 2005  
**GROUP 1700**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/036,126  
Filing Date: December 26, 2001  
Appellant(s): LELENTAL ET AL.

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For Appellant

**EXAMINER'S ANSWER**

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This is in response to the appeal brief filed 03/17/2005.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

None

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

None

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

The rejection of claims 1-12 and 17-19 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

US 5,391,472	Muys et al	02-1995
US 5,910,385	Gardner et al	06-1999

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

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***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- Claims 1-12 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muys et al (US Patent 5,391,472) as applied to claim 1 above, and further in view of Gardner et al (US Patent 5,910,385).

Muys et al disclose transparent-antistatic coating compositions comprising:

(i) *Poythiophene/polyanion dispersion* with a particle size of *5nm-1 micron*, wherein polyanion compound being polyacrylic acid or *polystyrene sulfonic acid* (Col-3, Ln-60 to Col-4, Ln: 24; Col5, Ln 16-65; Col-10, Ln: 8-54; Col-12, Table-1) < Limitation of Instant Claims: 1-2, 4-5, 10, 17-19>,

(ii) Various solvents/additives such as phenolic compounds, aliphatic polyhydroxy compounds such as *glycerol and sorbitol* < Limitation of Instant Claims: 1, 3, 6, 7, 9, and 11>, monomeric carboxylic acids such as *furancarboxylic acid and NMP* < Limitation of Instant Claims: 1, 3, 6, 7, 8, and 11-12> (Col-7, Lines: 25-53, Col-12, Table-1). The coating compositions given in Table-1 (Col-12) would meet the ratio limitations in instant claims 2-3. NMP, glycerol, sorbitol and polysaccharides would meet the limitation of neutral-charge conductivity enhancers in the instant claim-1.

(iii) A latex polymer binder having hydrophilic functionality such as copolymer of vinylidene fluoride and unsaturated carboxylic acid (Col-6, Lines: 55-60; Col-7, lines: 6-10, Col-9, Lines: 5-14, Col-12, Table-1).

Muys et al do not disclose or suggestive of the use of *gelatin or its derivatives* as the binder in the composition for forming electrically conductive antistatic layer, however the disclosure teaches all the other limitations of the instant claims by the applicants.

In the analogous art, Gardner et al teach making electrically conductive compositions comprising dispersion of polyaniline-protonic counter-ion complex with an electrical conductivity of  $1 \times 10^4$  ohm-cm in a first solvent such as DMSO, NMP and various alcohol blends; and a second solvent such as chlorinated solvents, alcohols and glycol ethers; and a

binder such as *gelatin* and cellulose esters (Abstract, Col-2, Lines: 52-63; Col-12, lines: 5-8; Col-14, Lines: 42-55; Col-15, Lines: 10-59).

It would have been obvious to one with ordinary skill in the art to modify the antistatic layer coating composition of Muys et al by optionally choosing gelatin as the binder per the teachings of Gardner et al to benefit from improved adhesion and antistatic characteristics, because Muys et al teaches all the elements of the antistatic composition except the use of gelatin binder, while Gardner et al teach the formulation of antistatic coating compositions comprising gelatin as binder and its benefits, and because both the disclosures are in the analogous art, and with the expectation of reasonable success in obviously arriving at the limitations of the instant claims by the applicants.

**(11) Response to Argument**

Appellants argue that (1) the teaching of the two references would not be combined by a skilled worker in the art, and (2) even if combined, a worker skilled in the art would not use the teaching in Gardner et al with the teaching in Muys et al to arrive at Appellants' antistatic composition of Claim 1. Appellants further argue that Muys polymeric particles are dispersed in the latex binder that is *not hydrophilic* in nature. Appellants further argue that the solvent systems of Muys and Gardner are different and incompatible.

The examiner respectfully disagrees with the appellant's arguments, because the latex binders taught by Muys are hydrophilic in nature that are applied as aqueous dispersions. See the extract of Column-3, Lines 48-55 from US-472 given below:

(26) (ii) coating said hydrophobic polyester sheet or web, either before stretching or between said first and second stretching operation, on one or both sides, with a transparent antistatic primer layer, wherein the coating

composition of said transparent antistatic primer layer comprises (1) a dispersion of a polythiophene with conjugated polymer backbone and a polymeric polyanion compound and (2) a **latex polymer having hydrophilic functionality**.

(27) By "**latex polymer**" is understood a polymer or copolymer that is **applied as an aqueous dispersion (latex) of particles** of said polymer or copolymer.

The Latex is known in the art as a white, tacky, aqueous suspension of a hydrocarbon polymer occurring either naturally or made synthetically (Hawley's Condensed Chemical Dictionary, 14<sup>th</sup> Edition, 2002).

The hydrophilic latexes employed by Muys include **polyurethanes** (Col-6, Ln 64-66) and copolymers of vinylidene chloride-**alkyl methacrylate** and an ethylenically unsaturated carboxylic acid (Col-7, Lines 10-15; Col-12, Ln 5-10).

Gardner's binders include the hydrophilic **ethyl methacrylate** homo and copolymers, and **polyurethanes**, that are the same polymers listed by Muys under latexes, and further includes "gelatin and gelatin derivatives"(US-385, Col-15, Lines 10-30). Gardner's binders are applied by dissolving the binder/s in a second solvent, wherein the preferred second solvents include **water and water miscible organics** (US-385, Col-15, Lines 51-53).

The examiner respectfully further disagrees with the arguments by the Appellants that the gelatin and gelatin derivatives as binders are buried a laundry list of specific non-preferred binders by Gardner et al.

The "Latexes" by Muys and the "Gelatins" by Gardner are encompassed by the common genus of hydrophilic binders in the art. This is further substantiated by the disclosure of Majumdar et al, that groups the hydrophilic colloids of "Gelatins" by Gardner along with the "Latexes" by Muys such as polyurethanes and methacrylates in the common genus of "water processable polymers" <hydrophilic binders> in the common art of photography (US 6,025,119:

Col-9, Line 64 to Col-11, Line-8). The compatibility of gelatin and latexes in the antistatic coatings are further well known in the art of photography as shown by Muys et al (US 5,312,681; Col-5, Lines 6-11).

With regard to arguments by the appellants on the non-preferred embodiments in the prior arts:

A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998)


A person of ordinary skill in the art would be motivated to combine the references of Muys et al and Gardner et al, and substitute the "hydrophilic latexes" of Muys with hydrophilic "gelatin/gelatin derivatives" of Gardner et al as functional equivalents in the antistatic coatings with reasonable expectation of success.

For the above reasons, it is believed that the rejections should be sustained.



Art Unit: 1751

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Respectfully submitted,


KMV

June 13, 2005

Conferees

Dr. Yogendra Gupta

Patrick Ryan



YOGENDRA N. GUPTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

Paul A. Leipold

Patent Legal Staff

Eastman Kodak Company

343 State Street

Rochester, NY 14650-2201

## latex

A white, tacky, aqueous suspension of a hydrocarbon polymer occurring naturally in some species of trees, shrubs, or plants, or made synthetically. The most important natural latex is that of the tropical tree *Hevea brasiliensis*, which was the only source of rubber up to 1945. It is composed of globules of rubber hydrocarbon coated with protein; the particles are of irregular shape, varying from 0.5 to 3 microns in diameter; the suspension is stabilized by electric charges. The composition is about 60% water, 35% hydrocarbon, 2% protein, and low percentages of sugars and inorganic salts. For commercial purposes, rubber latex can be concentrated by evaporation or centrifugation. Ammonia is added as a preservative. Coagulation is induced by addition of acetic or formic acid. A vulcanized form is available. Natural latex is used in the manufacture of thin articles (surgeons' gloves and other medical equipment), as an adhesive, in foamed products, and for coating various products such as tire cord. Conversion of latex to gasoline via zeolite catalysts has been reported.

Other sources of rubber-containing latex are guayule, a shrub grown in Mexico and the southwestern U.S., and several types of dandelions and related species. The botanical function of latex in the plant is unknown.

Synthetic latexes are made by emulsion polymerization techniques from styrene-butadiene copolymer, acrylate resins, polyvinyl acetate, and similar materials. Their particle size is much smaller than in natural latex, ranging from 0.05 to 0.15 micron; thus, they are truly colloidal suspensions. Their chief use is as a binder in exterior and interior paints, replacing drying oils; they are also used for foams and coatings.

See guayule; gutta percha; electrophoresis; paint; emulsion; "Vultex."

Hawley's Condensed Chemical Dictionary, 14th Edition  
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